REMARKS

The applicant requests reconsideration of this application in the light of the following remarks.

I. Status of All Claims

Claims 11-25 are pending.

Claims 11 and 16 are the only independent claims. Claim 12 depends from claim 11, claim 13 depends from claim 12, claim 14 depends from claim 13, claim 15 depends from claim 14, claim 17 depends from claim 16, claim 18 depends from claim 17, claim 19 depends from claim 18, and claim 20 depends from claim 19.

Claims 1-10 are canceled.

This amendment amends claims 11-20. No new matter has been added. The specification of this application supports the changes to claims 11-20, for example, at page 5 lines 4-11, page 6 lines 6-20, and in figure 1.

This amendment amends adds new claims 21-25. No new matter has been added. The specification of this application supports new claims 21-25, for example, at page 5 lines 4-11, page 6 lines 6-20, page 7 line 21 to page 8 line 5, and in figures 1, 2, and 3.

Claims 11-20 stand rejected.

II. The Objection to Figure 2 Under 37 CFR 1.84(p)(4)

A. The Examiner's Assertions

The examiner objects to figure 2 as failing to comply with 37 CFR 1.84(p)(4), stating that:

> The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "Routing Table for **NID = 2" in Fig.2** has been used to designate **NID = 1, NID = 2, NID = 3**, and **NID = 4** of the internal networks Dl, D2, E+, and E2, respectively. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to

obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance. [Office action mailed September 8, 2004 page 2 lines 5-15.]

B. **The Applicant's Reply**

In reply the applicant submits herewith a substitute drawing sheet amending figure 2. The applicant submits that substitute figure 2 complies with 37 CFR 1.84(p)(4). Therefore, the applicant respectfully submits that the objection to figure 2 as failing to comply with 37 CFR 1.84(p)(4) should be withdrawn.

III. **The Objections to Claims 13-15**

A. The Examiner's Assertions

The examiner objects to claims 13-15, stating that:

> **Claims 13-15** are objected to because of the following informalities:
>
> a) Term "**The signaling system**" in line 1 of these claims is improper.
>
> Examiner suggests changing this term to "**The method**".
>
> Appropriate correction is required. [Office action mailed September 8, 2004 page 2 lines 17-20.]

B. **The Applicant's Reply**

In reply, this amendment amends claims 13-15 to remove the noted informalities. The applicant submits that no new matter has been added. The applicant respectfully submits that the objections to claims 13-15 should be withdrawn.

IV. **The Rejections of Claims 14-20 Under 35 USC 112, Second Paragraph as Being Indefinite for Failing to Particularly Point Out and Distinctly Claim the Subject Matter which Applicant Regards as the Invention**

A. The Examiner's Assertions

The examiner rejects claims 14-20 Under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, stating that:

> **Claim 14** recites the limitations "**the cited new routing**" and "**the system**" in line 3. There are insufficient antecedent bases for these limitations in the claim. [Office action mailed September 8, 2004 page 3 lines 6-7.]

> **Claim 19** recites the limitation "**the cited new routing**" in line 2. There is insufficient antecedent basis for this limitation in the claim. [Office action mailed September 8, 2004 page 3 lines 8-9.]

> **Claims 16-20** are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the limitation "**method for routing**" in line 1 of the preamble of these claims is meets and bounds since there is no any relationship for such routing. [Office action mailed September 8, 2004 page 3 lines 10-14.]

B. **The Applicant's Reply**

In reply, this amendment amends claims 11-20 to remove informalities. The applicant submits that this amendment does not add new matter. The applicant notes that the examiner does not state any reasons for rejecting claim 15 under 35 USC 112, second paragraph, in the office action mailed 09/08/2004. The applicant submits that claims 11-20, as amended, fully comply with 35 USC 112, second paragraph. Therefore, the applicant respectfully submits that

the rejections of claims 14-20 under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention should be withdrawn.

V. The Rejections of Claims 11-20 Under 35 USC 103(a) as Being Unpatentable Over Michelson (US Patent No. 5,481,673) (Hereinafter "Michelson") in view of Khosravi-Sichani et al. (US Patent No. 5,983,217) (Hereinafter "Khosravi")

A. The Rejection of Independent Claim 11

1. The Examiner's Assertions

The examiner rejects claims 11-20 under 35 USC 103(a) as being unpatentable over Michelson in view of Khosravi-Sichani, stating that:

> **In Regarding to Claim 11: Michelson disclosed** a method for operating a signaling system of a signaling point, the method comprising the steps of:
>
> determining for a received signaling message on the basis of a network identifier, the identity of a network to which the signaling message belongs (*see col. 4 lines 13-29*);
>
> taking from a routing table belonging to the network identity, items of information for routing of the signaling message, wherein the signaling system accesses the routing table using the signaling point code of the signaling message (*see col. 4 line 62 — col. 5 line 7; and col. 3 lines 48-63*); and
>
> determining on the basis of the type of routing information taken from the routing table, whether an item of routing information is present indicating a link or linkset one of for forwarding the signaling message, or for denoting a network identifier (*see col. 3 lines 35-56; and col. 5 lines 3-7*).
>
> **Michelson failed to explicitly disclose** supplying the signaling message for the routing, if the item of routing information taken from the routing table is a network identifier.
>
> **Khosravi disclosed** such supplying the signaling message for the routing, if the item of routing information taken from the routing table is a network identifier (*see Fig. 2: 204, and col. 3 line 9 — col. 4 line 44*).

At the time of the invention, **it would be obvious** to a person of ordinary skill in the art to combine such supplying the signaling message for the routing, if the item of routing information taken from the routing table is a network identifier, as taught by Khosravi with Michelson, so that a signaling message such as a message signal unit (MSU) may travel across a network through certain signal transfer points (STP) to reach an ultimate destination. **The motivation** for doing so would have been to provide reliable methods and networks that can evenly loadshare queries amongst available databases containing the same software and data (*see Khosravi, col. 1 lines 51-54*). Therefore, it would have been obvious to combine Khosravi with Michelson in the invention as specified in the claim. [Office action mailed September 8, 2004 page 4 line 3 through page 5 line 6.]

2. **The Applicant's Reply**

a. **Claim 11 Recites an "internal network" and an "internal network identifier"**

i. **The Recitation of Claim 11**

Independent claim 11, as amended, recites:

11. (Currently amended) A method for operating a signaling system of a signaling point, the method comprising the steps of:

determining for a received signaling message on the basis of an *internal network identifier*, the identity of an *internal network* to which the signaling message belongs;

taking from a routing table belonging to the *internal network identifier*, items of information for routing of the signaling message, wherein the signaling system accesses the routing table using the signaling point code of the signaling message;

determining on the basis of the type of routing information taken from the routing table, whether an item of routing information is present indicating a link

or linkset for forwarding the signaling message, or indicating an *internal network identifier*; and

supplying the signaling message with a new routing, if the item of routing information taken from the routing table is an *internal network identifier*. [Emphasis added.]

ii. **The Support for the Recitations of Claim 11**

The specification of this application teaches at page 5 lines 4-20, for example, that:

...A network identity NID is internally allocated to each signaling link or link set, and an NI is externally allocated to each *internal network identifier NID*. Networks having different *internal identity* can thereby use the same external NI throughout. Each *internal network* is thereby completely separated internally from the other networks: This method of the decoupling of the external NI and the *internal NID* is also applicable to systems that support only four or fewer MTP networks. This design is called the multiple network design.

Existing or planned systems that support the multiple network design normally route MSUs in that, from a routing table, the next link or linkset to the desired destination that is currently to be used is determined. For each *internal logical network*, there is thereby exactly one table, and the tables of these networks are independent of one another. For these systems, a simple modification of these routing tables is now carried out such that in the routing tables the next path selected can be not only a particular link or linkset but also a different network. [Specification at page 5 lines 4-20; emphasis added.]

The specification of this application further teaches at page 6 lines 7-18, for example, that:

If the system determines that the MSU must be rerouted, the system selects, on the basis of the DPC of the MSU, a line or row from a routing table belonging to the *NID*. This line contains the identities, such as numbers, of the possible additional routes, such as links or linksets, and specially designated

identities, for example, the numbers -1 to -32, which now represent not links or linksets, but rather, the negative *internal NID*.

If during routing, such a "route" is recognized, the *NID* of the MSU is correspondingly modified, and is supplied again to the routing. But this time in the other network, the system again determines on the basis of the DPC of the MSU, whether the SP represents the endpoint for the MSU. If not, the system takes information for the routing of the MSU from a routing table belonging to the *NID*....[Specification at page 6 lines 7-18; emphasis added.]

b. **Michelson Does Not Teach or Suggest Claim 11's "internal network" and an "internal network identifier"**

In rejecting Claim 11 under 35 USC 103, the examiner relies upon the following passages from Michelson:

Cluster routing, then, is most appropriate for remote clusters. However, the fact that cluster routing is appropriate for remote clusters does not mean that it must be used for remote clusters. It is acceptable, in the provisioning process, for a remote cluster to be administered with full point code (i.e. member) routing. In that case, it is still necessary for the SP to understand and appropriately act on received cluster network management messages (i.e. TCx messages) pertaining to theft cluster, just as it is necessary for the SP to understand and appropriately act on member network management messages (i.e. TFx messages) that affect SPs administered on a cluster basis. [Michelson at column 4 lines 13-29.]

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Referring now to FIG. 2, there is illustrated a model network configuration shown generally by reference numeral 30, including two types of clusters, local (cluster 32) and remote (cluster 34). Cluster 32 (consisting of members A, B and C) is a local cluster to local STP (LSTP) or node 36. All of the cluster members are directly adjacent to STP 36 and no intermediate STPs are

required (under non-failure conditions) to route to those particular PCs. Consequently, each member of a local cluster requires a different route-set, so a member route-set is provisioned for each member. For example, STP 36's routing table for member A might show LS1 as the normal route, whereas for member B, LS2 would be the normal route. [Michelson at column 4 line 62 to column 5 line 7.]

*

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*

When identifying the route over which a message should be sent, a node may use a full 24-bit Destination Point Code (DPC), examining the Network ID, Network Cluster, and Cluster Member fields, or it may use only the Network ID and Network Cluster portions of the DPC to determine the proper outgoing route. In the former case, the node consults a member route-set, and is performing full point code or member routing; in the latter case, the node consults a cluster route-set, and is performing cluster routing.

Cluster routing and management refers to procedures that use partial point code information (i.e. the Network ID and Network Cluster fields of the DPC present in each SS7 message) to route message signal units (MSUs) and perform network management functions, as well as procedures that determine how to respond to signaling route management messages that refer to clusters or members....[Michelson at column 3 lines 48-63.]

*

*

*

A "destination" is a generic term, and can refer to either a cluster or a member of a cluster. If a route-set is provisioned with the destination being a cluster, it is considered a cluster route-set, and the routes within the route-set are considered cluster routes. If, however, a route-set is provisioned with the destination being a member, it is considered a member route-set, and the routes

within the route-set are considered member routes. In either case, a route within a route-set is provisioned with the following pieces of information: the destination, the link-set, and the cost or priority of the route. The current route status is also maintained (on a dynamic basis) for each route in a route-set.

When identifying the route over which a message should be sent, a node may use a full 24-bit Destination Point Code (DPC), examining the Network ID, Network Cluster, and Cluster Member fields, or it may use only the Network ID and Network Cluster portions of the DPC to determine the proper outgoing route. In the former case, the node consults a member route-set, and is performing full point code or member routing; in the latter case, the node consults a cluster route-set, and is performing cluster routing. [Michelson at column 3 lines 35-56.]

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*

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...Consequently, each member of a local cluster requires a different route-set, so a member route-set is provisioned for each member. For example, STP 36's routing table for member A might show LS1 as the normal route, whereas for member B, LS2 would be the normal route....[Michelson at column 3 lines 35-56.]

However, the applicant respectfully submits that neither the passages from Michelson noted above, nor Michelson as a whole, teach or suggest the limitations "internal network" and an "internal network identifier" recited in claim 11.

This is because Michelson only teaches networking via linksets between "clusters" and signaling points, as plainly shown in Michelson's Figs. 1-7. Michelson defines a "cluster" to be a *group of signaling points*. Michelson at column 3 lines 20-23. Therefore, one of ordinary skill in the art would recognize from Michelson's Figs. 1-7 that all the network links taught by Michelson are *external* to signaling points.

In contrast to Michelson, the specification of this application shows in Fig. 2, for example, that internal networks D1, D2, E+, and E2 are all *internal* to the signaling point.

Therefore, the none of the network configurations shown in Michelson's Figs. 1-7 can be the claimed "internal network" recited in claim 11.

Michelson teaches at column 3 lines 48-56, at column 4, lines 33-36, and at column 8, lines 45-67 that first a member routing table is consulted in order to determine, on the basis the full DPC of a signaling message, the outgoing link for this signaling message, and that, if from this the outgoing link cannot be inferred then a cluster routing table is then consulted, on the basis a part of the DPC of the outgoing link. The choice of the Routing table taught by Michelson is thus not based upon the DPC and is thus not a network identification NI associated with the DPC.

Thus, Michelson does not teach that a internal network identification NI associated with the DPC is used in the selection of the routing table, which is used for the determination of the outgoing link for the signaling message. Moreover, Michelson does not teach that on the basis the kind of the routing information retrieved from the routing table it is determined whether the data concerns routing information which indicates a next Link(set) which to be used to forward the signaling message or whether the data indicates an internal network identification. Therefore, Michelson also does not teach that the signaling message (for the purpose of the tunneling into another internal network) is re-routed internally if the routing information retrieved from the routing table is an internal network identification.

In summary, Michelson would not teach or suggest to one of ordinary skill in the art either the problem of forming virtual network tunnels between internal networks within a signaling point or suggest a possible solution.

c. **Khosravi Does Not Teach or Suggest Claim 11's "internal network" and an "internal network identifier"**

In rejecting Claim 11 under 35 USC 103, the examiner relies upon the following passage from Khosravi:

> FIG. 2 shows illustrative Input 200 and Output 204 of 4ESS switch 112, (FIG. 1) where Round-robin algorithm 202 of the present invention is implemented. As shown, the left column lists the headers of Input 200 entered into 4ESS switch 112 (FIG. 1) and the right column lists the headers of Output 204 generated from 4ESS switch 112 (FIG. 1). These headers are all part of the

same message that has to be routed. The content of Input 200 and Output 204 may be categorized into at least the following types of headers: Message Transfer Part ("MTP") Header 206 and 210, Signaling Connection Control Part ("SCCP") Header 208 and 212, and Translation Capabilities Application Part ("TCAP") Header 214 and 216.

MTP Header 206 and 210 each may include, but not limited to, the following parameters: Destination Point Code ("DPC"), Originating Point Code ("OPC") and Signaling Link Selection ("SLS"). DPC is the address to which a message is to be sent. OPC indicates the source of the message so that the response to the query can be returned to the signaling point that originated the message. SLS is used to load-share signaling messages across a link set in the SS7 network. SCCP Header 208 and 212 each may include the following parameters: Message Type, Class of Service and Called Party Addresses. In a typical SS7 routing, there is a function called a Global Title translation which is used for a higher level routing of, for example, 800 queries. The Global Title translation is also used for a call that requires the round-robin routing of the present invention for even load-sharing. TCAP Header 214 and 216 each may include Application Query Information, that is a part of protocol for calling application. It conveys most of the application specific information from switch to database so that the database can respond to a query.

For example, an incoming call requiring a query to a database, needs to know the address to which to send the query. For a call that requires round-robin routing of the query, the DPC of such a call is set to 4ESS switch 112 (FIG. 1) itself. If the switch has the round-robin routing table, the 4ESS switch 112 (FIG. 1), then, looks at the Routing Indicator in the Called Party Address. The Routing Indicator may be set to point code routing or global title routing. If the call is related to a global title routing, then, 4ESS switch 112 (FIG. 1) looks into the Translation Type and Global Title Address of the Called Party Address. If the Translation Type and Global Title Address indicate round-robin routing, then 4ESS switch 112 (FIG. 1) determines that the round-robin routing algorithm 202

should be used and proceeds with Input 200 to do a lookup on the round-robin routing table which is discussed in reference to FIG. 3. The lookup provides Output 204 that includes the DPC pointing to a particular database. The database is denoted SD.sub.n that can be any of SD.sub.1 102, SD.sub.2 104 or SD.sub.3 106 (FIG. 1). The query is, thereafter, sent to the selected SD.sub.n by 4ESS switch 112 (FIG. 1). The database, SD.sub.n, in return processes the query and sends the response to the query back to 4ESS switch 112 (FIG. 1).

FIG. 3 illustrates exemplary Round-robin routing table 300 that includes columns of Index numbers 302, Point Codes 304 and Subsystem Numbers 306. The index numbers range from 0 to n-1 and account for n replicated databases SD.sub.n in Network 100 (FIG. 1) available to an incoming query at 4ESS switch 112 (FIG. 1). The point codes provide key pieces of information directing to a corresponding database. Also, the subsystem numbers are provided since in each database, there may be multiple subsystems with different applications including, for example 800 service, private network service, etc.

FIG. 4 is a flow chart having an illustrative sequence of steps in accordance with the preferred embodiment when the round-robin routing algorithm is implemented at 4ESS switch 112 (FIG. 1).

In step 400, 4ESS switch 112 (FIG. 1) receives an SS7 message for routing. This SS7 message is Input (FIG. 2) having MTP 206 (FIG. 2) and SCCP 208 (FIG. 2) information. From such information, 4ESS switch 112 (FIG. 1), in step 402, determines if the SS7 message requires a Global Title Translation, for example, required for the 800 service to translate an 800 number to an SS7 network address of the database that would perform the application to translate the 800 number to a conventional routing number. In order to determine the requirement of the Global Title translation, 4ESS switch 112 (FIG. 1) checks the routing indicator of SCCP Header 208 (FIG. 2). If the routing indicator is set to 1, the SS7 message does not require routing on the Global Title. If the SS7 message does not require the Global Title routing, then 4ESS switch 112 (FIG. 1) in step 404 performs point code routing that does not involve the round-robin algorithm.

> On the other hand, if the routing indicator is set to 0, it requires routing on the Global Title. If the SS7 message requires the global title routing, then 4ESS switch 112 (FIG. 1) in step 406 determines if the Global Title translation requires the use of the round-robin routing algorithm by checking the Translation Type and Global Title Address in SCCP Header 208. If the Translation Type is set to other Global Title Translation such as a 800 service or private network service, 4ESS switch performs the specified routing in step 408. If the Translation Type and Global Title Address is set to round-robin routing, 4ESS switch 112 searches Round-robin table 300 (FIG. 3) as discussed in reference to FIG. 3. Thus, generally both the Translation Type and Global Title Address are used to determine round-robin routing. [Khosravi at column 3 line 9 to column 4 line 44.]

However, the applicant respectfully submits that neither the passages from Khosravi noted above, nor Khosravi as a whole, teach or suggest the limitations "internal network" and an "internal network identifier" recited in claim 11.

This is because Khosravi only teaches a "round robin" routing algorithm for distributing messages *between* signaling points. Khosravi's Fig. 1, for example, only shows network links *between* the 4ESS switch and other signaling points. Therefore, one of ordinary skill in the art would recognize that Khosravi's routing algorithm must operate *external* to a signaling point.

In contrast to Khosravi, the specification of this application shows in Fig. 2, for example, that internal networks D1, D2, E+, and E2 are all *internal* to the signaling point.

Therefore, Khosravi's "communication network 100" shown in Khosravi's Fig. 1cannot be the claimed "internal network" recited in claim 11.

Khosravi teaches that the MTP accomplishes message filtering (message discrimination) on the basis the DPC. As result message distinction supplies the MTP the message (message) to the message routing element or hands over the message to the SCCP. If the SCCP receives the message, it determines whether the message remains in the signaling point or accomplishes a GT translation.

If the SCCP accomplishes a GT translation, then the result of the GT translation is, among other things, a new DPC. The SCCP hands the message over to the MTP for routing (now with the new DPC). The mechanism of the GT translation is thus used by Khosravi for routing on a higher logical level (routing by the SCCP) (see Khosravi, column 3, lines 32-34).

In the present invention the MTP also accomplishes message filtering (message discrimination) on the basis the DPC. If the message becomes due to the result of the message distinction to the message guidance steering element (Routing) practice-gives is, then it seems first in such a way, as if the message was passed on as with D2 to another point of signaling.

In the case of the present invention, the message guidance steering element (routing) of the MTP the look-up of the routing table can result not only in an outgoing link set but also in a renewed look-up of a another routing table, i.e., a routing table for another internal network, into which the message is to be tunneled. With the routing in accordance with Khosravi it results, however, not in a renewed routing as with the present invention, since with the procedure in accordance with Khosravi the message is supplied to the SCCP first without routing. On the other hand, Khosravi not is not directed to routing a message into another internal network, but only with routing on a higher logical level (see , Khosravi column 3, i.e. lines 32-34), to the level of the SCCP. In all other respects the procedure taught by Khosravi uses the SCCP. In contrast, the present invention uses the MTP.

Khosravi, in summary, teaches or suggests to one of ordinary skill in the art neither the problem definition of making virtual network tunnels or the problem solution of making virtual network tunnels.

d. Conclusion - Claim 11 Is Not Obvious Over Michelson in View of Khosravi

As noted above, neither Michelson nor Khosravi teach or suggest the limitations "internal network" and an "internal network identifier" recited in claim 11. Therefore, the examiner has not made a proper prima facie rejection of claim 11 under 35 USC 103. Therefore, the applicant respectfully submits that the rejection of claim 11 under 35 USC 103(a) as being unpatentable over Michelson in view of Khosravi-Sichani is improper and should be withdrawn.

B. The Rejection of Dependent Claim 12

1. **The Examiner's Assertions**

In Regarding to Claim 12: Michelson further disclosed the method according to claim 11, further comprising the step of:

defining the network identifier of a signaling message by the link or linkset via which the signaling message was received (*see Fig. 2: LSI -LS5*). [Office action mailed September 8, 2004 page 5 lines 7-10.]

2. **The Applicant's Reply**

Claim 12 depends directly or indirectly from independent claim 11. Therefore, the applicant submits that the rejection of claim 12 under 35 USC 103 is improper and should be withdrawn for at least the reasons given above for independent claim 11.

C. **The Rejection of Dependent Claim 13**

1. **The Examiner's Assertions**

In Regarding to Claim 13: Michelson further disclosed the method according to claim 12, further comprising the step of:

indicating the network identifier of a signaling message in the signaling message itself (see E-linkset in Fig. 3 and col. 8 lines 30-67: only one cluster route set may exist for a cluster, one exists). [Office action mailed September 8, 2004 page 5 lines 11-15.]

2. **The Applicant's Reply**

Claim 13 depends directly or indirectly from independent claim 11. Therefore, the applicant submits that the rejection of claim 13 under 35 USC 103 is improper and should be withdrawn for at least the reasons given above for independent claim 11.

D. **The Rejection of Dependent Claim 14**

1. **The Examiner's Assertions**

In Regarding to Claim 14: Michelson further disclosed the method according to claim 13, further comprising the step of:

using a cited new routing to cause a system to switch signaling messages between two different signaling systems (*see col. 8 line 62 — col. 9 line 16*). [Office action mailed September 8, 2004 page 5 lines 16-19.]

2. **The Applicant's Reply**

Claim 14 depends directly or indirectly from independent claim 11. Therefore, the applicant submits that the rejection of claim 14 under 35 USC 103 is improper and should be withdrawn for at least the reasons given above for independent claim 11.

E. **The Rejection of Dependent Claim 15**

1. **The Examiner's Assertions**

In Regarding to Claim 15: Michelson further disclosed the method according to claim 14, further comprising the step of:

using the cited new routing to cause the system to realize an interworking with other networks (*see col. 5 line 8-18: intermediate nodes (hence, interworking nodes)*). [Office action mailed September 8, 2004 page 5 lines 20-23.]

2. **The Applicant's Reply**

Claim 15 depends directly or indirectly from independent claim 11. Therefore, the applicant submits that the rejection of claim 15 under 35 USC 103 is improper and should be withdrawn for at least the reasons given above for independent claim 11.

F. **The Rejections of Dependent Claims 16-20**

1. **The Examiner's Assertions**

In Regarding to Claims 16-20: the claimed subject matters of these claims are similar to that of claims 11-15, respectively. Therefore, the rejections to the claims 11-15 would also apply to reject these claims. [Office action mailed September 8, 2004 page 6 lines 3-5.]

2. **The Applicant's Reply**

Claim 16 recites the imitations "internal network" and an "internal network identifier" recited in claim 11. Therefore, the applicant submits that the rejection of claim 16 under 35 USC 103 is improper and should be withdrawn for at least the reasons given above for independent claim 11.

Claims 17-20 depend directly or indirectly from independent claim 16. Therefore, the applicant submits that the rejection of claims 17-20 under 35 USC 103 is improper and should be withdrawn for at least the reasons given above for independent claim 16.

VI. The Rejections of Claims 11-20 Under 35 USC 103(a) as Being Unpatentable Over Fikis et al. (US Patent No. 6,167,129) (Hereinafter "Fikis") in view of Fleischer, III et al. (US Patent No. 5,680,446) (Hereinafter "Fleischer")

A. The Rejection of Independent Claim 11

1. The Examiner's Assertions

The examiner rejects claims 11-20 under 35 USC 103(a) as being unpatentable over Fikis in view of Fleischer, stating that:

> **In Regarding to Claim 11: Fikis disclosed** a method for operating a signaling system of a signaling point, the method comprising the steps of:
>
> determining for a received signaling message on the basis of a network identifier, the identity of a network to which the signaling message belongs (*see Fig. 5b: MSU 544*);
>
> taking from a routing table belonging to the network identity, items of information for routing of the signaling message, wherein the signaling system accesses the routing table using the signaling point code of the signaling message (*see Fig. 5b: the column of point code (considered as network identifier) in Routing Table 550; and col. 9 lines 22-51*);
>
> determining on the basis of the type of routing information taken from the routing table, whether an item of routing information is present indicating a link or linkset one of for forwarding the signaling message, or for denoting a network identifier (*see Fig. 5b: the column of Link Set in Routing Table 550*); and

supplying the signaling message for the routing, if a linkset connection connected from the other network (*see Fig.5b: outgoing MSU; and col. 12 lines 8-54*).

Fikis failed to explicitly disclose supplying the signaling message for the routing, if the item of routing information taken from the routing table is a **network identifier**.

Fleischet disclosed such supplying the signaling message for the routing, if the item of routing information taken from the routing table is **a network identifier** (*see col. 9 lines 23-39: NPA-NXX Trunk Routing Table identifies each SSP of the private network (hence, network identifier)*).

At the time of the invention, **it would be obvious** to a person of ordinary skill in the art to combine such supplying the signaling message for the routing, if the item of routing information taken from the routing table is a network identifier, as taught by Fleischet with Fikis, so that a signaling message such as a MSU may travel across a network through certain STPs to reach an ultimate destination. **The motivation** for doing so would have been to provide long distance calls terminating outside of the local service area of a communications network. Therefore, it would have been obvious to combine Fleischet with Fikis in the invention as specified in the claim. [Office action mailed September 8, 2004 page 6 line 9 through page 7 lines 16.]

a. **Claim 11 Recites an "internal network" and an "internal network identifier"**

As noted above, claim 11 recites the imitations "internal network" and an "internal network identifier."

b. **Fikis Does Not Teach or Suggest Claim 11's "internal network" and an "internal network identifier"**

In rejecting Claim 11 under 35 USC 103, the examiner relies upon the following passages from Fikis:

MTP Routing uses a network management defined Routing Table to associate a Point Code with a linkset. A Routing Table typically has an entry for every point code in the network. The Routing Table of the SSP 201 (FIG. 2), for example, might have entries for linksets used to route messages to each of network signaling points 202, 203, 204, 205, 207, 208, 209, 210, and 211. Each entry associates the point code of a signaling point with one of the linksets 206 or 216. The linksets 206, 216 may be configured as a linkset pair, called a Combined Linkset, which functions as a single linkset because it is connected to a mated pair of STPs at 204 and 205.

To find an MTP route for an MSU from the SSP at 201 to the SCP at 209, Message Routing 307 chooses a linkset by finding an entry in the Routing Table with a PC that matches the DPC of the MSU being sent, in this example the PC of the SCP 209. The entry in the Routing Table for SCP 209 will indicate that the Combined Linkset of linksets 206 and 216 is to be used to route the MSU to its destination. The SLS field in the MSU determines the link within the Combined Linkset on which the MSU is transmitted.

In the STP, SCCP Routing occurs in an MTP User application. SCCP Routing in the STP results in changes to the DPC Field 116 of an MSU because of interpretation of information within the MTP-UP 115 portion of an MSU (FIG. 1). SCCP Routing at the STP is invoked by sending an MSU to the STP as a destination with an SIO Service Indicator 112 set to indicate SCCP and including the Called Party Address parameter with the Routing Indicator set to Global Title Translation in the SCCP portion of the MSU. [Fikis at column 9 lines 22-51.]

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FIG. 5b is a schematic diagram showing the Mediation STP 511 performing an exemplary access mediation process on an MSU 554 received on a gateway linkset B6. The Mediation STP 511 is equipped with an exemplary Routing Table 550 and Screening Table 552. The MSU 554 is transmitted to port

1 of the Mediation STP 511 over SS7 linkset B6. The MSU 554 has a DPC of 1-2-3 and an OPC of 3-1-1. On receipt of the MSU 554, the EGWS of the Mediation STP 511 is evoked because the linkset B6 is, for example, a linkset connection from another network. The MSU is screened as explained above using, for example, the Screening Table 552. In accordance with the Screening Table 552, on receipt of an MSU with a DPC of 1-2-3, the Mediation STP 511 is to FAIL-COPY the MSU 554. The copy of the MSU 554 is inserted in a new MSU which is assigned an OPC of 3-3-3, the PC of the Mediation STP 511, and a DPC of 5-5-5, the PC of the MF 512. The new MSU packet 558 is then passed to the MTP of Mediation STP 511 which consults the Routing Table 550 and determines that the linkset for DPC 5-5-5 is D21. The new MSU 558 is therefore transmitted over linkset D21 which is connected to the MF 512. On receipt of the new MSU 558, the MF 512 performs a preprogrammed action dictated by any predetermined criteria associated with the MSU 558 or the copied MSU 554 it contains. Since the Screening Action dictated FAIL-COPY, the original MSU 554 is not permitted to continue on its designated path by the Mediation STP 511, and it is not emitted into the network over linkset A5, as dictated by the Routing Table 550. However, the preprogrammed action initiated in the MF 512 on receipt of the MSU 558 may extract the original MSU 554 from the MSU 558, further screen the MSU 554 and return it to the Mediation STP 511. Since the linkset D21 is not subject to EGWS screening, the returned MSU 544 would be emitted into the SS7 network on linkset A5, as dictated by the Routing Table 550. It will be appreciated by those skilled in the art that the processing power and the configuration flexiblility availabile in the MF 512 permits packets forwarded for mediation access to be further screened, modified, copied, logged or discarded. If network conditions or protocol requires it, supplementary messages or network management messages (i.e., TFR, TFP, TFA) may also be generated and inserted into an inter-node dialogue, or superfluous messages may be discarded from an inter-node dialogue. The MF 512 therefore permits a powerful and flexible implementaion of an SMP. [Fikis at column 12 lines 8-54.]

However, the applicant respectfully submits that neither the passages from Fikis noted above, nor Fikis as a whole, teach or suggest the limitations "internal network" and an "internal network identifier" recited in claim 11.

This is because Fikis only teaches networking over linksets *between* signaling points. One of ordinary skill in the art would recognize that the "access mediation process" taught by Fikis must be *external* to a signaling point. Fikis's Fig. 2 and Fig 5a, for example, only show network links *between* signaling points, not internal to signaling points. Therefore, Fikis's mediation network, as taught in Fig. 5b, for example, cannot be the claimed "internal network" recited in claim 11.

c. Fleischer Does Not Teach or Suggest Claim 11's "internal network" and an "internal network identifier"

In rejecting Claim 11 under 35 USC 103, the examiner relies upon the following passage from Fleischer:

> ...In accordance with the present invention, a trunk routing table, e.g., an Instate NPA-NXX Trunk Routing table (see FIG. 7), that permits an office route number to be selected based on NPA-NXX for that switch, may be used by the ISCP 30. As shown in FIG. 7, the instate NPA-NXX table identifies each SSP of the private network. For each NPA or NPA-NXX entry in the table, a route office number (or route index) may be associated with each SSP of the private network to identify the trunk on which to route the telephone call for termination. If the trunk routing table does not have an office route number for the NPA-NXX of the switch, the trunk routing table may provide an office route number to be selected based on NPA for that switch. The office route number may point to a trunk group going to another network switch, to Feature Group B trunks, to a Local Access and Transport Area tandem, or to a Leaky PBX that may tandem the call for local completion. [Fleischer at column 19 lines 23-39.]

However, the applicant respectfully submits that neither the passage from Fleischer noted above, nor Fleischer as a whole, teach or suggest the limitations "internal network" and an "internal network identifier" recited in claim 11.

This is because Fleischer only teaches networking *between* signaling points. Fleischer's Fig. 1, for example, only shows networking links *between* signaling points. Therefore, one of ordinary skill in the art would recognize that the network taught by Fleischer must be *external* to a signaling point.

In contrast to Fleischer, the specification of this application shows in Fig. 2, for example, that internal networks D1, D2, E+, and E2 are all *internal* to the signaling point.

Therefore, Fleischer's "advanced intelligent network" shown in Fleischer's Fig. 1, for example, cannot be the claimed "internal network" recited in claim 11.

d. Conclusion - Claim 11 Is Not Obvious Over Fikis in View of Fleischer

As noted above, neither Fikis nor Fleischer teach or suggest the limitations "internal network" and an "internal network identifier" recited in claim 11. Therefore, the examiner has not made a proper prima facie rejection of claim 11 under 35 USC 103. Therefore, the applicant respectfully submits that the rejection of claim 11 under 35 USC 103(a) as being unpatentable over Fikis in view of Fleischer is improper and should be withdrawn.

B. The Rejection of Dependent Claim 12

1. The Examiner's Assertions

In Regarding to Claim 12: Fikis further disclosed the method according to claim 11, further comprising the step of:

defining the network identifier of a signaling message by the link or linkset via which the signaling message was received (*see Fig. 5b: Linkset D21 and point code 5-5-5*). [Office action mailed September 8, 2004 page 7 lines 17-20.]

2. **The Applicant's Reply**

Claim 12 depends directly or indirectly from independent claim 11. Therefore, the applicant submits that the rejection of claim 12 under 35 USC 103 is improper and should be withdrawn for at least the reasons given above for independent claim 11.

C. **The Rejection of Dependent Claim 13**

1. **The Examiner's Assertions**

In Regarding to Claim 13: Fikis further disclosed the method according to claim 12, further comprising the step of:

indicating the network identifier of a signaling message in the signaling message itself (*see col. 6 lines 14-17; and Fig. 7*). [Office action mailed September 8, 2004 page 7 lines 21-24.]

2. **The Applicant's Reply**

Claim 13 depends directly or indirectly from independent claim 11. Therefore, the applicant submits that the rejection of claim 13 under 35 USC 103 is improper and should be withdrawn for at least the reasons given above for independent claim 11.

D. **The Rejection of Dependent Claim 14**

1. **The Examiner's Assertions**

In Regarding to Claim 14: Fikis further disclosed the method according to claim 13, further comprising the step of:

using a cited new routing to cause a system to switch signaling messages between two different signaling systems (*see Figs. 2 and 5b, and col. 6 lines 29-51*). [Office action mailed September 8, 2004 page 8 lines 3-6.]

2. **The Applicant's Reply**

Claim 14 depends directly or indirectly from independent claim 11. Therefore, the applicant submits that the rejection of claim 14 under 35 USC 103 is improper and should be withdrawn for at least the reasons given above for independent claim 11.

E. **The Rejection of Dependent Claim 15**

1. **The Examiner's Assertions**

In Regarding to Claim 15: Fikis further disclosed the method according to claim 14, further comprising the step of:

using the cited new routing to cause the system to realize an interworking with other networks (*see Fig. 5b: Mediation STP 511 and Fig. 2: STPs 204, 214, 210 and 211*). [Office action mailed September 8, 2004 page 8 lines 7-10.]

2. **The Applicant's Reply**

Claim 15 depends directly or indirectly from independent claim 11. Therefore, the applicant submits that the rejection of claim 15 under 35 USC 103 is improper and should be withdrawn for at least the reasons given above for independent claim 11.

F. **The Rejections of Dependent Claims 16-20**

1. **The Examiner's Assertions**

In Regarding to Claims 16-20: the claimed subject matters of these claims are similar to that of claims 11-15, respectively. Therefore, the rejections to the claims 11-15 would also apply to reject these claims. [Office action mailed September 8, 2004 page 8 lines 11-13.]

2. **The Applicant's Reply**

Claim 16 recites the imitations "internal network" and an "internal network identifier" recited in claim 11. Therefore, the applicant submits that the rejection of claim 16 under 35 USC 103 is improper and should be withdrawn for at least the reasons given above for independent claim 11.

Claims 17-20 depend directly or indirectly from independent claim 16. Therefore, the applicant submits that the rejection of claims 17-20 under 35 USC 103 is improper and should be withdrawn for at least the reasons given above for independent claim 16.

VII. **New Claims 21-25**

New independent claim 25 recites the imitations "internal network" and an "internal network identifier" recited in claim 11. Therefore, the applicant respectfully submits that Michelson, Khosravi, Fikis, and Fleischer do not anticipate or render obvious the subject matter of new claim 21 for at least the reasons given above for independent claim 11.

New claims 22-25 depend directly or indirectly from independent claim 21. Therefore, the applicant respectfully submits that Michelson, Khosravi, Fikis, and Fleischer do not anticipate or render obvious the subject matter of new claims 22-25 for at least the reasons given above for independent claim 21.

VIII. **Closure**

Should the examiner have any questions, he is urged to contact the undersigned at 703-415-0012.

Respectfully Submitted,

12/8/2004
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